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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,788	09/28/2001	Thomas Barts	IN-12093	5467

1590 05/23/2004
BASF Corporation
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EXAMINER

BISSETT, MELANIE D

ART UNIT PAPER NUMBER

1711

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/937,788	Applicant(s) BARTZ ET AL.
Examiner Melanie D. Bissett	Art Unit 1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(s). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8 and 10 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1003.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 10.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

1. The rejections based on 35 USC 102 and 103 have been withdrawn based on the applicant's amendment. However, new rejections have been presented as necessitated by amendment.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 5, 7-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy (US 6,630,249 B2) in view of Kennedy (US 6,050,208).

4. Kennedy '249 discloses a composite structural laminate plate comprising two facing metal layers having foam void sections embedded within (abstract). Voids are introduced into the structure to lighten the structure or enhance performance (col. 4 lines 50-52). An elastomer is injected between the metal plates, where the elastomer takes the shape of the void cavity (col. 10 lines 15-54). The drawings show closed cavities, where the elastomers are molded within. Preferred metal plate thicknesses are 4.0-20mm (col. 10 lines 55-59). Elastomers have tensile strengths of 20-55 MPa, elongation values of 100-800%, modulus of elasticity values of 250-1000 MPa, and bond strengths of 4.0 MPa (col. 12 line 42-col. 13 line 47). Preferably, air is entrapped in the elastomer between 3 and 7%, where air or other gases may be used to control shrinkage (col. 13 lines 48-54). Because the reference teaches the use and addition of air or other gases, it is the examiner's position that the polyurethane elastomers of Kennedy's invention would be indistinguishable from those of the applicant's invention.

5. However, the '249 reference does not seem to teach the thickness of the elastomer layer. Kennedy '208 teaches composite structural laminates having two outer metal plates and an inner elastomer core, where the elastomer has similar properties to those of the elastomeric void-containing material of '249 (abstracts). Kennedy '208 teaches an elastomer thickness of 20-100 mm, where the thickness may vary according to application (col. 2 lines 47-56). Because both references are concerned with ship hull applications, it is the examiner's position that it would have been prima facie obvious to employ an elastomer thickness of 20-100 mm to produce a light structure having optimum structural characteristics.

6. Regarding the inclusion of fillers, Kennedy '249 indicates that additives may be added. However, the reference does not specify the use of fillers in a given amount. Because fillers are known additives for polymeric or elastomeric materials for reducing the cost of the overall material, it is the examiner's position that it would have been prima facie obvious to include fillers in any amount necessary to optimize the structural properties of the articles while reducing the cost.

7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy (US 6,630,249 B2) in view of Kennedy (US 6,050,208) as applied to claims 1-2, 5, 7-8, and 10 above, and further in view of Oertel.

8. The Kennedy references apply as above, failing to teach the use of polyether polyols or foam stabilizers for the void-containing elastomers. Oertel teaches that polyether and polyester polyols are conventionally used in elastomeric polyurethane

systems, where polyester polyols are more reactive with moisture from the air (p. 391). It is the examiner's position that it would have been prima facie obvious to use polyether polyols in the Kennedy references to provide reaction products with less side reactions due to moisture. Also, Oertel teaches that foam stabilizers are used in both flexible and rigid foam materials to prevent the collapse of the air or gas pockets within the polyurethane structure (p. 219, p. 249). Thus, it would have been prima facie obvious to include foam stabilizers in the reaction materials to ensure air entrapment to provide lighter articles.

Allowable Subject Matter

9. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The closest prior art, Kennedy (US 6,630,249 B2), discloses a composite structural laminate plate comprising two facing metal layers having foam void sections embedded within. However, the reference does not specify the applicant's claimed polyether polyol blend for the formation of the polyurethane materials. It is the examiner's position that this blend, when incorporated into the applicant's claimed composite structure, would provide a novel and unobvious step over the prior art.

Response to Arguments

11. Applicant's arguments with respect to claims 1-5 and 7-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

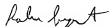
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb


RABON SERGENT
PRIMARY EXAMINER